



AMENDMENTS

In the Specification:

Please replace page 4, lines 3- 4 with the following:

Fig. 2 is a perspective view of the reverse side of the knife illustrated in FIG. [2] 1;

Please replace page 9, lines 3-8 with the following:

Clevis pin 86 is received within hole 62 of blade B upon assembly of knife 10. Since pin 86 is at a fixed distance from pivot pin 56 as the blade pivots between the retracted and extended positions, pin 86, and accordingly, end 87, of clevis 82 moves through a corresponding arc, the radius of the arc being the distance between the centers of holes 84 of clevis 82 and pin [62] 56 of blade B.

In the Claims:

Please cancel claims 32, 38-44 and 46 without prejudice.

Please amend claims 11, 12, 22, 23, 25, 28, 30, 31, 34, 35, 45, and 48 as follows:

11. (Amended) A folding knife, comprising:

a handle defining a blade cavity and a first end;

a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position wherein the blade is substantially within said blade cavity;

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a longitudinally extending plunger carried in said blade cavity and having a first end and a second end wherein said second end is opposite said first end;

23 a pivoting sleeve provided in said handle, said sleeve receiving and longitudinally slidably carrying said first end of said plunger for longitudinal movement of said plunger relative to said sleeve as said blade moves between said retracted and extended positions; and

said second end of said plunger being pivotally connected to said first end of said blade for orbital movement about said blade pivot as said blade moves between said retracted and extended positions.

12. (Amended) A folding knife, comprising:

a handle defining a blade cavity and a first end;

24 a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position wherein the blade is substantially within said blade cavity; and

a longitudinally extending compressible plunger adapted to assist with moving the blade between the retracted position and the extended position, or vice versa, the plunger having:

a first end slidably connected to said handle for longitudinal movement of said plunger relative to said handle as said blade moves between said retracted and extended positions; and

24. a second end opposite said first end, said second end of said plunger pivotally connected to said first end of said blade for orbital movement about said blade pivot as said blade moves between said retracted and extended positions.

22. (Amended) A knife as defined in claim 21, wherein the coil spring encircles said plunger.

23. (Amended) A folding knife, comprising:
a handle defining a blade cavity and a first end;
a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position wherein the blade is substantially within said blade cavity; and

a plunger including a spring, the plunger pivotally connected to the blade, the spring adapted to exert a pivoting force upon the blade in response to the spring being deformed, the spring being maximally deformed when the blade is pivoted to an intermediate point between the extended position and retracted position, thereby causing the spring to assist opening of the blade when the blade is pivoted from the retracted position toward the extended position beyond the intermediate point.

25. (Amended) A knife as defined in claim 23, further comprising a safety member connected to said handle for movement between a locking position and an unlocking position;

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said safety member defining an engagement portion projecting into a path of movement of said plunger when said safety member is in said locking position for contacting and restraining movement of said plunger when said blade is in said extended position, to thereby lock said blade in said extended position.

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28. (Amended) A knife as defined in claim 23, wherein an end of said plunger includes a clevis having a pin pivotally connected to said first end of said blade.

30. (Amended) A folding knife comprising:
a handle;
a blade pivoted on said handle for movement between stowed and deployed conditions relative to the handle; and

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a plunger including an elongate, force-transmitting biasing spring, where the plunger is operatively coupled with the blade for orbital movement of a portion of the plunger about the blade and the spring is operatively interposed said handle and said blade, where said spring exhibits both a rise and a fall in the biasing force carried through the spring when the blade is moved from one of the stowed condition and the deployed condition to the other of the stowed condition and the deployed condition.

31. (Amended) The knife of claim 30, wherein the mentioned rise and fall in biasing force occur such that the rise in the biasing force occurs before the fall in the biasing force.

Cancel claim 32.

34. (Amended) A folding knife comprising:

a handle;

a blade pivoted on said handle for movement between stowed and deployed conditions relative to the handle; and

an elongate, force-transmitting biasing spring having an effective length, the spring operatively attached to said blade, where said spring is adapted to exhibit both an increase and a decrease in the effective length of the spring, with movement of said blade generally from one of the stowed condition and the deployed condition toward the other condition.

35. (Amended) The knife of claim 34, wherein the increase in the effective length occurs before the decrease in effective length.

Cancel claim 38.

Cancel claim 39.

Cancel claim 40.

Cancel claim 41.

Cancel claim 42.

Cancel claim 43.

Cancel claim 44.

45. (Amended) A knife comprising:

a handle;

a blade pivotally held in the handle to move about a blade pivot point, such that the blade moves between a stowed position and a deployed position; and

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a plunger including a spring, where the plunger is coupled to the blade such that a portion of the plunger remains a fixed distance from the blade pivot point, and where the spring operates on the blade to maintain the blade in the stowed position when the blade is moved to the stowed position, and operates on the blade to urge the blade toward the deployed position when the blade is moved by an outside force from the stowed position at least partially toward the deployed position.

Cancel claim 46.

48. (Amended) A knife comprising:

a handle;

a spring movably held in the handle; and

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a blade pivotally held in the handle by a pin, the blade pivotal between a stowed position and a deployed position,

wherein the spring is operatively connected to the blade at a point that moves with the blade as the blade moves from the stowed position to the deployed position, and wherein the spring is operatively connected to the blade to exert a directional force on the blade that is at least approximately in line with the pin when the blade is in at least one position as it moves from the stowed toward the deployed position, but while the blade is closer to the stowed position than to the deployed position.

Status of Claims and Support for Claim Changes

Prior to this amendment, claims 1-50 were pending. By this amendment, claims 32, 38-44 and 46 are cancelled with claims 1-31, 33-37, 45, and 47-50 pending. By this paper, amendments have been made to original claim 11. Please further note that claims 12-50 were newly added claims submitted with the reissue application. By this paper, amendments have been made to claims 12, 22, 23, 25, 28, 30, 31, 34, 35, 42, 45 and 48

Explanation of Support in Disclosure for Amendments

Each of the amendments presented in this paper is supported in the original disclosure. Below is a discussion of substantive amendments.

Specifically, amended claim 11 recites a "pivoting sleeve provided in said handle." Support for the amendment is found in the submitted single column application on page 4, col. 4, lines 47-50, which states "pins 95 are received within openings 97 provided in handle portions 12, 14, respectively, to allow pivoting of collar 92 within passage 33 and the blade cavity portion of handle A." It should be noted that collar 92 is also referred to as a sleeve. (pg. 4, col. 4, line 44).

Applicant has amended claim 12 from the prior version to recite a compressible plunger. A compressible plunger is illustrated in Figs. 4A-4C and such compression is further described in relation to Figs. 4A-4C in the disclosure on page 5, col. 5, lines 29-31. Claim 12 was further amended to recite that the "plunger is adapted to assist with moving the blade between the retracted position and the extended position." Such amendments are supported by col. 4, line 60 through col. 5, line 22 and by the drawings, specifically Figs. 4A-4C. Moreover, the summary of the invention recites an object of the present invention is "to provide a folding knife having

means for allowing the blade to be readily opened and extended by persons having limited hand mobility.” (col. 1, lines 60-64.)

Claim 22 is supported by Fig. 3, which illustrates a coil spring encircling a plunger.

Applicant also amended claim 23 from the prior version including a recitation of a “plunger including a spring.” Support for the plunger including a spring is found in page 4, col. 4 lines 38-47 which described plunger assembly E. Further support for the amendment is found in Fig. 3.

Claim 30 also was amended from the previous version. Amended claim 30 recites a plunger “operatively coupled with the blade for orbital movement of a portion of the plunger about the blade.” Such amendment is supported in col. 2, lines 15-17 which recites that the “second end of the plunger is pivotally connected to the first end of the blade for orbital movement about the blade pivot as the blade moves between the retracted and extended position.” Moreover, the disclosure describes that, as “blade B moves between the retracted and extended positions, end 87 of clevis 82 tends to “orbit” about pivot pin 56.” col. 4, lines 58-60.

Claim 31 was amended from the previous version to recite “that the rise in the biasing force occurs before the fall in the biasing force.” Support for the amendment is shown in Figs. 4A-4C which “illustrate movement of blade B between the retracted position, as shown in Fig. 4A, and the extended position as shown in Fig. 4C, in which the blade has pivoted approximately 180 degrees from said retracted position....It can also be seen that spring 90 is at various states of compression as blade B moves between the retracted and extended positions.” (at col. 5, lines 23-31).

Similarly, claims 34 and 35 were amended from the previous version to recite that the spring “is adapted to exhibit both an increase and a decrease in the effective length of the spring

with movement of the blade.” As described above, Figs. 4A-4C “illustrate movement of blade B between the retracted position, as shown in Fig. 4A, and the extended position as shown in Fig. 4C. (col. 5, lines 23-25).

Likewise, claim 45 was amended from the previous version to include “a plunger including a spring, where the plunger is coupled to the blade such that a portion of the plunger remains a fixed distance from the blade pivot point.” Support for this amendment is again found in Figs. 4A-4C. Further support is found in col. 4, lines 51-58 which state that “since pin 86 is at a fixed distance from pivot pin 56 as the blade pivots between the retracted and extended positions, pin 86, and accordingly, end 87, of clevis 82 moves through a corresponding arc, the radius of the arc being the distance between the centers of holes 84 of clevis 82 and pin 62 of blade B.”